3.16 CULTURAL RESOURCES

This section provides an overview of the cultural resources in the study corridor. Specifically, this section describes the area of analysis and the regulatory setting, defines cultural resources, and describes the inventory methods. This section also analyzes potential project impacts and mitigation measures.

3.16.1 AREA OF ANALYSIS AND METHODOLOGY

AREA OF ANALYSIS

A Class I cultural resource inventory (a literature search) was conducted for the area within a 4 mile corridor following the route alternatives as shown in Figure 3.16-1. A Class III inventory (an intensive pedestrian survey) was conducted along a 500 foot-wide corridor, 250 feet each side of the centerline. A comprehensive report (SEI 2000a) describes the results of the literature search and field survey.

DEFINITION OF THE RESOURCE

A cultural resource is any definite location of past human activity, occupation, or use, identifiable through inventory, historical documentation, or oral evidence. Cultural resources include archaeological, historic, or architectural sites, structures, places, objects, and artifacts (BLM 1989). The cultural resources in the project area are divided into three groups, described below: prehistoric archaeological resources, historic resources, and Traditional Cultural Properties (TCPs).

Prehistoric Archaeological Resources

Prehistoric archaeological resources are any material remains of human life or activities (i.e., sites, features, or objects) that can provide understanding of past human behavior (ARPA 1979). Prehistoric sites within the project area could be considered significant and determined eligible for the National Register of Historic Places (NRHP) if they possess integrity and have a reasonable amount of research potential.[1] Five major prehistoric research issues identified in the project area include:

1. Information about prehistoric land use in relation to site location (how the landscape was used prehistorically);
2. Information about site type, as it related to human behavior and adaptation;
3. Information about temporal change, as it pertained to the development of chronological sequences and human adaptations;
4. Information about resource procurement, trade, and territorial boundaries; and
5. Information about population movements and technological innovations (Criterion D).

Historic Resources

Historic resources are districts, sites, buildings, structures, or other objects that are associated with or convey some aspect of history (American or otherwise), architecture, engineering, and/or culture (USDI 1977). Examples of historic resources potentially occurring in the project area include roads, trails, trash scatters, town sites, sheep camps, ranches, railroads, or other physical evidence of human habitation. Historic archaeological resources are identified or interpreted through archaeological methods and techniques.

Historic resources within the project area could be eligible for the NRHP if they relate directly to national, state, regional, or local themes such as exploration, transportation and communication, mining-

[1] While prehistoric sites can also be eligible under any of the criteria (Criterion A-D), prehistoric resources are typically eligible for their research potential (Criterion D).

milling (and their support services such as wood cutting, charcoal manufacture, and water procurement), ranching and farming, urban development, or government and political activity, as described in the Nevada Comprehensive State Plan. Such properties could be eligible under Criterion A of the NRHP when they relate to significant historic events. The NRHP and the criteria under which cultural resources may be eligible for listing are further described in the following section, Regulatory Framework. Properties associated with events specific to Western Shoshone history and culture in the project area also may be eligible under Criterion A. These sites are defined as "Ethnohistoric Western Shoshone Properties" in this section of the EIS. In all cases, NRHP-eligible properties must also retain sufficient integrity to convey their importance.

Historic properties in the project area could also be eligible under Criterion B of the NRHP if they are associated with notable individuals and illustrate an important person's achievements. Examples of important persons specific to Native American history and culture in the project area may include treaty signers, traditional doctors, war chiefs, and mythological heroes of the Western Shoshone.

Properties eligible under Criterion C of the NRHP in the project area may include, but are not limited to, bridges, railbeds, mining structures, stage stations, town buildings, or Native American properties. A mine extraction or milling layout with sufficient integrity and intact remains to demonstrate that important innovations or techniques were practiced, or where evidence of other than standard technologies is present, may be eligible under Criterion C. Significant buildings or structures eligible under the criterion might have been designed by notable architects, or could demonstrate design elements of a type, period, or method of construction unique at the time. Examples of Native American properties eligible under Criterion C include exemplary traditional areas or the work of a master, such as a landmark or feature associated with oral traditions or cultural practices, a prime example of a resource area, or rock art.

Properties significant under Criterion D of the NRHP include, but are not limited to, exploration of the West, mining activities, ranching, traditional Western Shoshone sites, and prehistoric sites. For example mining properties eligible under Criterion D may demonstrate changes in mining technology or its use, or contain intact remains of mining activities that exhibit spatial integrity, with sufficient quantity and variety of artifacts to provide new archaeological information regarding those mining activities. Significant residential properties might also demonstrate the potential to provide information about the domestic arrangements of miners, including unusual and unique kinds of housing or foodways, or information about the presence of poorly documented ethnic or cultural groups.

Ranches or mining/milling facilities eligible under this criterion might contain intact material and features with sufficient integrity to shed light on ways of adaptation to mining or ranching, working conditions, or flow of work, or on lifeways of individuals who were employed in support systems for miners, other workers, or members of ethnic groups. Examples of Native American properties eligible under Criterion D include areas important as settings for eliciting information about the past or for telling a traditional story, or an archaeological site with potential for distinguishing historic Western Shoshone camps from contemporary Euroamerican camps. Other properties eligible under Criterion D may be prehistoric sites with the potential to address unresolved chronological or settlement/subsistence related issues, or sites from underrepresented time periods such as pre-Archaic sites that occur on the margins of Pleistocene lakes.

FIGURE 3.16-1: CULTURAL RESOURCES FIELD SURVEY AREAS

Traditional Cultural Properties (TCPs)

TCPs are historic properties or locations that have associations with cultural practices or beliefs of a living community and are rooted in that community's history and are important in maintaining its cultural identity (NPS 1992). TCPs are recognizable places with boundaries that maintain associations to the events or people referenced, and that continue to confer and reinforce cultural identity. Examples include areas where culturally significant activities and practices have occurred in the past and continue to occur, or may be landmarks that continue to invoke past events or people (physical or intangible). Examples may also include sacred sites; topography associated with oral traditions; areas where ceremonies and other events continue to take place; and locations where traditional economic, artistic, or other cultural practices continue to reinforce cultural identity. Archaeological sites or places may be eligible for listing on the NRHP as a TCP if associated with continuous traditional practices or beliefs important in maintaining cultural identity. These properties are identified by members of the community for whom they are significant, in this case, the Western Shoshone. The ethnographic setting, described in Section 3.16.2, provides a general context for identifying and evaluating the significance of TCPs in the project area.

REGULATORY FRAMEWORK

National Historic Preservation Act

Consideration of the effects of federally regulated undertakings on cultural resources is governed by the National Historic Preservation Act (NHPA) of 1966. Regulations in 36 CFR 800 (revised 1986) outline the process through which this historic preservation legislation under the NHPA is administered. Regulations at the agency level (e.g., BLM 1988) detail the review process.

The National Programmatic Agreement (NPA) among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers regarding the manner in which the BLM will meet its responsibilities under the NHPA is the National BLM authority for meeting requirements of the NHPA. Day-to-day operations are based on the protocols developed by the local BLM offices with each state. In Nevada, the State Protocol Agreement between the BLM and the Nevada State Historic Preservation Office (SHPO) defines how the SHPO and the BLM will interact and cooperate under the NPA, and provides direction for implementing the NHPA.

The National Register of Historic Places (NRHP) maintained by the Secretary of the Interior is the nation's inventory of important historic resources. Section 106 of NHPA stipulates that federal agencies must allow the Advisory Council on Historic Preservation an opportunity to comment on federal agency undertakings, including those that may affect properties eligible for the NRHP.

As the lead federal agency for the project, the BLM is responsible for compliance with Section 106 of the NHPA in coordination with other cooperating federal agencies. This coordination involves review by the Nevada SHPO regarding the significance and effects on properties considered to be eligible for the NRHP. The SHPO has been a cooperating agency with the BLM since the early planning stages of the project.

Qualifications for Listing Cultural Resources on the NRHP

The National Park Service has established three main standards that a resource must meet to qualify for listing on the NRHP: age, integrity, and significance. To meet the age criteria, a resource generally must be at least 50 years old[2]. To meet the integrity criteria, a resource must "possess integrity of location,

[2] Resources less than 50 years old may be eligible for the NRHP if they are of "national significance." No resources less than 50 years old within the project area meet the criteria for national significance.

design, setting, materials, workmanship, feeling, and association" (36 CFR 60.4). Finally, a resource must be significant according to one or more of the following criteria:

1. Possess association with important events that have made a significant contribution to the broad patterns of our history (Criterion A).
2. Have an association with the lives of important persons (Criterion B).
3. Display distinctive characteristics of a type, period of method of construction, such as unique architecture, craftsmanship, or design (Criterion C).
4. Have the capacity to provide important information about the past (Criterion D) (ACHP 1991).

TCPs eligible for the National Register, like other historic properties, must be at least 50 years old and must also meet one or more of the four criteria of significance described above. TCPs must also demonstrate integrity of relationship. For example, the property must be recognized by contemporary groups as important to their cultural heritage, and the physical condition of the property must be sufficiently intact to invoke the historic associations. Under the State Protocol Agreement, the BLM will consider the effects of undertakings on historic properties that are eligible for the NRHP as TCPs according to the guidance in National Register Bulletin 38: Guidelines for Evaluating and Documenting TCPs.

NHPA Amendment for Protection of Native American Values

As discussed above, Section 106 of the NHPA requires federal agencies to take into account effects of their undertaking on properties eligible to the NRHP. Amendments of 1992 provide explicitly for consideration of places of traditional religious or cultural significance as eligible to the National Register. Such places, referred to as "traditional cultural properties," require different consideration from archaeological sites and historic buildings (NPS 1986) when evaluating their significance against National Register criteria. The 1992 amendments also direct federal agencies to consult with appropriate tribes as part of their Section 106 process. Such consultation enables tribal governments and traditional elders to assist in the following: 1) identifying potentially eligible properties and the values that make them eligible; and 2) assessing project effects on such properties, including identification of mitigation measures where possible.

National American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), as amended (Federal Register 62:148), requires consultation with appropriate Indian tribes prior to the excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony on federal lands. NAGPRA recognizes Native American ownership interests in some human remains and cultural items on federal lands and makes illegal (under most circumstances) the sale or purchase of Native American human remains, whether or not they are derived from federal or Indian lands. Repatriation, on request, to the culturally affiliated tribe is required for human remains and associated funerary objects. Repatriation of other cultural items is dependent upon whether or not the original acquisition of an item was from an individual with the authority to alienate it from the tribal group (43 CFR Part 10).

Executive Order 13007 of 1996, "Indian Sacred Sites"

Executive Order 13007 adds an element of enforcement to the policy set forth by the American Indian Religious Freedom Act in 1978. It requires the following actions from federal agencies: (1) accommodate access to and ceremonial use of sacred sites by Indian religious practitioners; and (2) avoid adverse physical effects to such sites. Agencies must provide reasonable notice of proposed actions that might "restrict further access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites." Tribes must inform agencies of the existence of such sites.

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978 affirms United States policy that federal agencies will ensure their policies and procedures protect and preserve the rights of American Indians to affirm, express, and exercise traditional religions, including access to sites, use and possession of sacred objects, and freedom of worship through ceremonials and traditional rites. The law required a review of policies by federal agencies when it was passed. However, it contains no enforcement provisions or sanctions for policies or procedures that do not comply with the overall policy.

INVENTORY METHODS

A summary of the inventory methods related to cultural resources (prehistory, history, and ethnography) in the study corridor and surrounding region is provided below. The inventory methods are organized in terms of literature searches and field surveys for all types of cultural resources.

Literature Search

The first step of the cultural resource inventory consisted of a literature search of existing records to identify previously recorded cultural resources. Record searches of the original route locations were conducted at the Nevada State Museum and the BLM Battle Mountain, Elko, and Ely Field Offices. Maps and site records covering a 2-mile area on each side of the 500-foot wide corridor were examined for the presence of previously recorded sites. U.S. General Land Office (GLO) plat maps were also examined in the Public Room of the State Office of the BLM as well as at the various field offices for the presence of historic roads, trails, telegraph lines, railroads, ranches, and homesteads.

The records search and literature review indicated that many previous small surveys crossed the proposed route alternatives, while a few areas have received considerable attention as part of extensive developments. Much of Whirlwind Valley had been surveyed as part of a gold mining operation in the early 1990s, while a similar operation in the 1980s was conducted in the Mount Hope Mining District, part of which lies in Crescent Valley. A previous high voltage transmission segment between Eureka and Ely was surveyed in 1971 and site records prepared, but no comprehensive report was written and no historic sites recorded.

Ethnographic studies related to TCPs involved research of published ethnographies and history, unpublished archives, interviews with ethnographers and agency personnel with experience in the area, a series of meetings and interviews with Western Shoshone tribal representatives, presentations to tribal councils, and focused interviews and field trips with individuals especially knowledgeable about the history of land use and traditions associated with the project area. Meetings and interviews were focused on identifying Western Shoshone historic properties and potential TCPs.

Field Survey

An intensive (Class III) cultural resources field survey was conducted on lands within the study corridor to determine the existence of prehistoric and historic archaeological resources (Summit Envirosolutions 2000a). A Class III cultural resources field survey is a walking survey with crew members spaced no more than 30 meters (100 feet) apart. As the alternative routes cross areas administered by three BLM Field Offices (Battle Mountain, Elko, and Ely), the surveyors completed the survey in compliance with a common set of stipulations designed for the project. The field survey was undertaken between May 24 and July 22, 1999.

Archaeological sites were defined as two artifacts or more within 50 meters of one another, separated from other artifacts by a distance of at least 50 meters. Sites such as historic roads identified in the literature search and noted on field maps, but which may have no associated artifacts, were also recorded.

Teams of three to seven archaeologists, headed by individuals meeting BLM professional requirements for crew chiefs, walked the study corridor and recorded archaeological sites at the required 30-meter interval. During much of the survey, a Native American tribal representative participated on each crew. Survey coverage sometimes varied from the 30-meter interval transects due to restricted access, extreme topography, or in areas that were previously inventoried.

Archaeological sites were recorded on Intermountain Archaeological Computer System (IMACS) forms. When sites or isolated artifacts were encountered, the area was transected at closer intervals to identify any additional associated artifacts or features. Sites were photographed, artifacts sketched, and site layout maps prepared. Isolated finds were primarily mapped using GIS mapping units, described, and sometimes illustrated. The site forms are presented as an appendix item to the Class III field survey (SEI 2000a).

Visual impacts to sites eligible for the National Register under Criteria a, b, or c were also evaluated during the inventory.

Privately owned and potentially historic ranches within two miles of a route segment were also recorded for potential visual effects on these resources. Buildings greater than 50 years in age and potentially historic features were recorded, mapped, and photographed. These ranches were recorded on Historic Property Inventory Forms as an attachment to the archaeological IMACS forms.

3.16.2 AFFECTED ENVIRONMENT

PHYSICAL SETTING

Spanning the north central part of the hydrologic Great Basin, an area of internal drainage outlet solely by evaporation, the project route alternatives cross a diverse array of climatic, geological, geomorphological, biological, and hydrological settings (Fiero 1986; Houghton et al. 1975; Stewart 1980). The dynamic nature of these settings undoubtedly influenced past land uses and patterns as evidenced by the varied locations of cultural resources found during the cultural resource inventory.

The project area spans the northern reaches of the physiographic or geologic province of the Great Basin, a region characterized by uplifted and tilted ranges punctuated by intervening valleys (Stewart 1980). Ranges found along the corridor include Malpais (northern arm of Shoshone Range), Cortez Range, Sulphur Spring Range, Roberts Mountains, Whistler Mountain, Diamond Mountains, southern Ruby Mountains, Butte Mountain, Egan Range, and the southern Cherry Creek Range. Valleys include Boulder Flat, Whirlwind, Crescent, Grass, Pine, Kobeh, Diamond, Huntington, Newark, Long, and Steptoe. Major water sources past and present crossed or adjacent to the study corridor include the Humboldt River, Beowawe Geysers, Indian Creek, Shoshone Wells, Pine Creek, Henderson Creek, Vinini Creek, pluvial lakes in Grass, Diamond, Newark, Jakes, and likely Crescent Valleys, and Hercules Gap Spring (Mifflin and Wheat 1979).

Landscapes and their associated landforms also influenced past cultural land use in the project area. Near-flat and gently sloping surfaces such as alluvial fans, fan piedmonts, fan skirts, alluvial flats, and playas, as well as ridge tops, passes, and stream terraces, contained the most cultural resources. These types of landforms convey potential ease of travel, possible water sources, likely prehistoric camping locations, and historic ranch, field, and mining locations (Peterson 1981). Mountain slopes contained the fewest cultural resources, with isolates, quarries, and mining-related endeavors being the primary resource types in these locations.

CULTURAL SETTING

Prehistoric Cultural Setting

The Falcon to Gonder project area occupies a cultural landscape abundant with evidence of past occupation of the region. Archaeological investigations in the region have documented human occupation of the area for approximately the past 11,000 years. Four broad time periods, or "phases," are generally recognized to define the cultural chronology of the region: Pre-Archaic (9000+ – 6000 B.C.), Early Archaic (6000 to 2500 B.C.), Middle Archaic (2500 B.C. to 700 A.D.), and Late Archaic (700 to 1850 A.D.). The temporal periods correspond in a general way with climatic regimes and changing trends in cultural patterns for settlement, subsistence, and material culture. These temporal associations are based on projectile point styles and a small number of radiocarbon dates. The following sections offer further information regarding these four temporal periods.

Pre-Archaic

Implements from this time period include Great Basin fluted points (Clovis). These are rare in the vicinity but include finds from Crescent Valley, Ivanhoe Creek near Tosawihi Quarries (Schmitt and Dugas 1992), the southern end of Big Smoky Valley on the edge of pluvial Lake Tonopah, and in Long Valley. Partial remains of a Pleistocene mammoth were also found on the western flank of the Cortez Mountains. Two fluted point fragments were found associated with Great Basin stemmed points at Rye Patch Reservoir (Rusco and Davis 1987). Two Pre-Archaic site areas lie east of the project area. The Sunshine Locality is about 10 miles east of the project area and the Gravel Bar sites are about 55 miles south of the project area. This last site represents one of the earliest occupations in Nevada. While no intact subsurface deposits have as yet been documented in these areas, they attest to the wide geographic extent of Pre-Archaic activity in the region. Another Pre-Archaic site near the project area is located in the northern part of Grass Valley, where extensive scatters of early basal assemblages have been recorded.

Great Basin stemmed projectile points, concave base lancelet points, crescents, scrapers, knives, and the first, albeit limited, assemblages of groundstone (Grayson 1993:240) denote later parts of the Pre-Archaic. Dated deposits in the Great Basin come from Fort Rock Cave, Connley Caves, Last Supper Cave, Danger Cave, Hogup Cave, and Smith Creek Cave with the earliest being ca. 9200 B.C. and the youngest ca. 5500 B.C. Four Great Basin Stemmed points were found during data recovery of the West Sinter Quarry (Livingston and Pierce 1988). Several sites containing stemmed points, large flake-based scrapers, and late stage bifaces were identified around the western margins of Whirlwind Valley, confined primarily within elevations between 5,000 and 5,500 feet above mean sea level (Ingbar and Ataman 1994). This group of sites is thought to be among the few in the region identified as dating almost exclusively to the Pre-Archaic.

Early Archaic

This era is marked by Large Side-notched (post ca. 5000 B.C.) projectile points in the north, large concave-based Triple-T and Humboldt Series at Gatecliff, and by Pinto Series points in the South Fork shelters. Groundstone tools become more widespread and may suggest greater reliance on higher cost resources, such as seeds. Presumably due to the generally warmer and drier conditions, populations in the central Great Basin seem to decrease during this time with a large growth in population for the area noted at 2500 B.C.

Middle Archaic

Hallmarks of this period include Gatecliff Series projectile points at Gatecliff Shelter, although in the north central and northeastern Great Basin, the Humboldt, Pinto, and even Elko Series projectiles are present. Groundstone tools such as manos, metates, mortars, and pestles also become a noticeable part of the tool assemblage. Elko Series projectile points and use of a variety of environments including mountaintops characterize the end of the Middle Archaic, ca. A.D. 700-850 B.C. Quarrying at Tosawihi

increased, while James Creek and South Fork shelters were inhabited as short-term camps with increasing occupation. A distinctive archaeological assemblage known as Fremont, ca. A.D. 400-1300, appears in limited areas of far eastern and southern Nevada by about A.D. 500, denoted by pit houses and surface structures of masonry and stone as well as distinctive ceramic wares.

Late Archaic

A common chronological marker in the first part of this period (ca. A.D. 700-1300) is projectile points of the Rosegate Series, which include the Rose Spring and Eastgate varieties. A major technological change from atlatl and dart to bow and arrow is associated with the appearance of this point type. Intensive quarrying is discerned at Tosawihi, as are substantial habitations at James Creek Shelter (including bison processing), the Pine Valley sites, and South Fork shelters suggesting long-term (possibly annual) occupation. Generally, the Upper Humboldt region contains a wealth of sites relating to this phase including those in upland areas, suggesting that for many sites the most intensive occupation was at this time. Newark Cave (Fowler 1968), in Newark Valley on the edge of Buck Mountain, is situated near the project area. Point types from the Late Archaic and Middle Archaic were found there, as were examples of Intermountain Brownware and one specimen of older Fremont ceramics.

The period from 1300 A.D. to the pre-contact historic era (1850) is characterized by Desert Series points and Intermountain Brownware pottery. Quarrying activities at Tosawihi sharply intensify, use of uplands is less common, and some breaks in occupation are noted from the early to middle part of this time at James Creek, South Fork, the Rock Creek narrows (Clay 1997; Clay and Hemphill 1986), and the Argenta Rim sites. High altitude villages are found in the White Mountains (Bettinger 1991; Delacorte 1991) and the Toquima Range (Thomas 1982) and may indicate an expansion of close-packed populations from the previous times into less hospitable environments.

Dramatic changes occurred to the local Native American culture due to intensive contact with Euroamerican settlers, beginning in the mid-nineteenth century. For example, resources such as grasses and springs were destroyed or made inaccessible as stock animals grazed and the concept of private ownership was imposed. The native people retained many beliefs but found that traditional patterns of settlement and subsistence were no longer possible. They gradually oriented to a labor-based cash economy, often on the margins of ranches, mining towns, and other settlements. Impoverishment and discrimination often characterized their condition.

Archaeological sites are recognized through the presence of a combination of Euroamerican and aboriginal artifacts. Site types may include homesteads, farms or ranches, pinyon gathering camps, neighborhoods on the fringes of mining towns, and reservation settlements. Among the Numic speakers, the Western Shoshone people are dispersed near the project area in individually owned properties, allotments and reservation lands, and mixed into the present economy as ranchers, miners, etc.

Historic Cultural Setting

The earliest exploration in northern Nevada occurred in 1826 by trappers led by Peter Ogden along the headwaters of the Bruneau and Owyhee rivers. In 1828, Ogden's group trapped east along the Humboldt River, camping about 2 miles north of present-day Beowawe near Segment A of the project (Roberts 1989:257). The central and eastern portions of the project area were not explored during these earliest periods, although fur trapper Jedediah Smith crossed Nevada in 1827 along a route approximating modern Highway 6 south of the project area.

Exploration continued with migration and overland travel. Early emigrants established several routes to California and Oregon using a variety of passes and cutoffs. In 1841, the Bidwell-Bartleson group became the first wagon train to reach California via fur trapper routes along the Humboldt River. In Nevada, the California Trail followed the Humboldt River but branched after it emerged from Emigrant

Pass west of Carlin, one route going west and north and a second turning south to cross the Humboldt at Gravelly Ford, about 3 miles east of present-day Beowawe. The two routes are located not far apart at present-day Dunphy, near the north end of Segment A of the project.

The Hastings Cutoff, another alternate route of the California Trail, went south along the East Humboldt Range and the Ruby Mountains, then north through Huntington Valley (near Segment E) and along the Humboldt's South Fork to the main river (Hunt 1980:66, 97-98). In just a few years, emigrants flooding the Humboldt River disrupted centuries-old Shoshone settlement and subsistence patterns. Incidents between European Americans and Native Americans began in 1833 when American fur trapper Joseph Walker resorted to arms against Native Americans. The emigrants continued this pattern of conflict.

Most emigrants followed the Humboldt River route, but early explorers penetrated some valleys within the vast unexplored interior of Nevada. In 1845, exploration in central Nevada began with John Fremont's third expedition. Sending the Walker party along the Humboldt River, Fremont led a group from Franklin Lake in Ruby Valley across Harrison Pass and Huntington Valley into Diamond Valley, heading southwest to pass south of Roberts Mountains (Vlasich 1981:215).

In 1853, Captain John W. Gunnison and then Lieutenant E.G. Beckwith led a party to explore a railroad route that would avoid the Humboldt River corridor. The party moved south through Ruby Valley, across the Ruby Mountains at Overland Pass, across the north end of Diamond Valley into Garden Valley and Pine Valley, and probably used Cortez Canyon to enter Crescent Valley and rejoin the Humboldt (Vlasich 1981:216). John Reese explored a route in 1854 that entered Nevada somewhat south of Fremont's trail, which it joined near the south edge of Roberts Mountain (Bancroft 1981:75). Reese and Captain James H. Simpson's wagon road survey of 1859 established the Central Route, a faster, shorter route across the country that avoided Native American hostilities along the Humboldt River.

Native American bands organized to resist the emigration, preserve their own lives, and protect native lands and food sources. A Reese River Valley band consisting of 300-400 persons negotiated a treaty in 1861 granting travel concessions but retaining ownership of lands and resources.

In the spring of 1860, the Pony Express service began to provide mail delivery between Salt Lake City and Sacramento. The Central Route was used and 28 stations were developed for riders and horses. Stations in the project vicinity included Dry Creek at the east foot of the Simpson Park Mountains, Grubs Well in Kobeh Valley, Robert's Creek south of Robert's Mountains, and Sulphur Springs on the west side of Diamond Valley. Grub's Well, Robert's Creek, and Sulphur Springs stations were shared with the stage and mail services (BLM 1997). The Pony Express operated between April 1860 and October 1861. The service was expensive, and riders and station keepers faced constant danger. The demise of the Pony Express was assured when the transcontinental telegraph line, constructed along the Central Route, opened in October 1861, sending in ten seconds a message that took the Pony Express 10 days to deliver.

Settlement and mining began almost concurrently in the 1860s. Stage and freight lines connected communities and booming mining camps, to be abandoned as camps went "bust." The railroad period of 1867-1883 occurred within the longer span of settlement and mining, and portions of abandoned railbeds, along with stage and freight trails, evolved into the state and federal highway transportation system.

Mormons were the first European American group to settle in the Great Basin, at Salt Lake in 1847. The 1848 discovery of gold in California and subsequent hordes of emigrants helped support the settlement, whose members exchanged grain and produce for clothing, other goods, and livestock (Bancroft

1981:65; Vlasich 1981:222). Mormons and others soon established trading posts and small settlements along the Humboldt River route. Salt Lake City governed the unsettled eastern regions where the project is located. The Territory of Nevada was established in 1861, and Nevada became a state in 1864 (Elliott 1984:50-69).

The 1860s saw the birth of mining in Nevada, when unsuccessful Comstock Lode miners fanned out into Nevada. Mining camps went boom and bust during the 1860s and 1870s, and counties were formed and reformed. When the Reese River Mining District was formed at Austin in 1862, Lander County, encompassing about one-third of the area of Nevada, was created from Humboldt and Churchill Counties (Angel 1958:461). In 1869, White Pine County was created from Lander County, which was further reduced in 1873 when Eureka County was created. Mining farther north commenced in 1862 with the discovery of minerals in the Cortez region, followed in 1863 by finds of silver ore at Galena near the Humboldt River.

The Cortez Mining District, at the south end of Crescent Valley and straddling the Lander-Eureka county line, is historically significant and well documented. Three other communities in the Cortez District included Shoshone Wells, situated at a spring at the foot of the Toiyabe Range 2 miles west of the town of Cortez; the camp of St. Louis at the west foot of Mount Tenabo; and Garrison, a small community near the Garrison Mine on the upper reaches of southern Mount Tenabo, the last of which was occupied between approximately 1900 and 1910 by a large group of Chinese mine laborers (Paher 1970; Zeier 1993:14-17).

In northern Eureka County, the Beowawe Mining District was operating by 1880. The Modarelli Frenchie Creek District lies in northwest Pine Valley on the northeast side of the Cortez Mountains. In 1908, the Buckhorn Mining District was organized on the southeast side of the Cortez Mountains. The Mineral Hill Mining District was established on the northwest slope of the Sulphur Spring Range on the east side of Garden Valley in 1868 by miners from Austin, where ore was initially processed.

Before and during the mining boom, ranches and farms developed along the Humboldt and its tributaries, while settlements and trading posts grew into major commercial settlements (Patterson et al. 1969:211-268). Some large ranches (e.g., approximately 20,000-150,000 acres) came to exist such as the T Lazy S Ranch in Boulder Valley and Rock Creek near Midas, the Horseshoe Ranch (begun in 1872) near Maggie Creek north of Carlin (Patterson et al. 1969), and the W.T. Jenkins Ranch, founded in 1877 near Battle Mountain.

In Eureka County, the Eureka mining district is the most important, discovered in 1864 and producing $52.2 million between 1866 and 1940. High temperature smelting required vast amounts of charcoal, and the most important ancillary service in the Eureka District was charcoal production. This voracious demand resulted in the total loss of pinyon, pine, and juniper forests surrounding Eureka. By the mid-1870s, Eureka was the second largest town in Nevada and reached its maximum population of more than 7,000 people.

Railroads, and later highways, were also influential in the settlement patterns of the region. Settlement was galvanized by the construction of the Central Pacific Railroad (CPRR) which, by 1869, produced a relatively reliable and safe means of transport across the continent, including sidings or stations at strategic locations such as Argenta, Battle Mountain, Beowawe, and Palisade (Mordy and McCaughey 1968:85, 88; Myrick 1962:1-19). The Eureka and Palisade Railroad (E&P) was completed in 1875, tying Eureka to the transcontinental Central Pacific; the smaller Ruby Hill Railroad, moving ores from mines to smelters, was completed the same year. By 1891, the major smelters were closed. The Ruby Hill Railroad was abandoned in 1893.

Land use in the area also reflects governmental attempts to attract settlers, including the Desert Land Act of 1877, the Enlarged Homestead Act of 1909, and the Cattlemen's Homestead Act of 1916, among others.

In Nevada history, the twentieth century is associated with a second mining boom, this time with copper discoveries spurring the boom. In the project area, the Robinson/Ely District, a relatively unproductive district from 1868 to 1902, accounted for about 95% of White Pine County's total historic production of $400 million (Couch and Carpenter 1943:143), more wealth than generated by any other district in Nevada (Smith 1976:65). New copper prospects brought more than 50 new mining companies into the area between 1902 and 1907 (Smith 1976:67). The Nevada Consolidated-Kennecott opened in 1909 and consolidated claims through the years. Molybdenite was first recovered in 1941, highlighting the diversity of the copper mining enterprise, which thrived until the late twentieth century.

World War I and World War II stimulated mining and increased production, but Nevada suffered through the Depression with the rest of the United States. Federal spending programs, such as loans, funds from the Civil Works Administration (CWA) and Civilian Conservation Corps (CCC), and public road monies, sustained Nevada from 1933 to 1939 (Elliott 1973:297). These funds supported programs that built roads, ditches, and canals; drilled wells; painted buildings and structures; and conducted archival surveys throughout Nevada.

Many quantitative changes occurred in Nevada during the twentieth century. Individual endeavors were replaced with or consolidated into corporate enterprises in mining, commerce, and ranching. Mining and agricultural centers either died or shifted their services to the tourist trade, especially along transportation corridors such as the Lincoln Highway and the Victory Highway.

In 1917, the Nevada Department of Highways was organized in response to the Federal Aid Road Act, which promised money for work on roads carrying mail-in states with highway departments and road surveys. Principal wagon roads evolved into primary auto routes, while smaller, rural feeder routes were either ignored or upgraded, depending upon the amount of use they received. The Lincoln Highway, later US 50, was the nation's first attempt at a transcontinental motorway, preceding any formal federal or state improvement programs. East to west, the highway was slated to pass through ten states before entering Tippett, Nevada on the Utah State line southwest of Salt Lake City and northeast of Ely.

It proceeded from Ely westward to Eureka, Austin, Fallon, and finally Reno, largely following the route of the Pony Express and, incidentally, not that of the Transcontinental Railroad or Humboldt Route of the Emigrant Trail. The Department of Highways changed the designation of the roads over the years from named roads to route numbers and eventually to US Highways. Road surfacing changed with the designation; in 1929, gravel oiling was introduced and by 1936, most highways were paved with asphalt and Portland cement (State of Nevada 1919-1936; Stornetta 1993). By the 1960s, State Route 50 (previously the Lincoln Highway) was generally realigned to its present configuration and redesignated US Highway 50.

Ethnographic Setting

In the project area, the distinction between prehistory and history corresponds to contact between the Western Shoshone (the Newe) and Euroamerican fur trappers in 1827 and the beginning of written records about central Nevada. Ethnographic sources (e.g., Steward 1938) provide valuable descriptions about the Newe culture after contact, which provides insight into elements of pre-contact culture, social organization, and land use. The Newe, although devastated by Euroamerican encroachment and appropriation, persist as a people with a history of their own.

Ethnohistory draws on both ethnography and history not only to construct a unique cultural history from their perspective, but to reconstruct the role of the Western Shoshone in a collective history. This

section summarizes the overview drawn from various ethnographies, histories, and contributions from tribal representatives and cultural specialists. This review of Newe cultural history provides a chronological and thematic framework for evaluating TCPs as defined by Bulletin 38 (NPS 1992) within the project area, and a context for understanding the inalienable relationship to the land that is fundamental to Newe worldview.

The Aboriginal Lifestyle - Hunting and Gathering

According to recent ethnohistories (Crum 1994; Inter-Tribal Council 1976; Janetski 1981), extended kin groups of Western Shoshone people, or Newe, have occupied the project area as part of a larger traditional territory, roughly from southern Idaho to Death Valley, bounded to the west by the Smith Creek Mountains in central Nevada, and to the east by the area around Ely, Nevada, in the Great Basin region from time immemorial. Ethnographic sources (e.g., Janetski 1981; Steward 1938; Thomas et al. 1982) concur that the Newe were well established in the area by the time of the first Euroamerican encounter (i.e., fur trappers ca. 1827). Scholars continue to debate the arrival of the Newe and other Numic speakers into the Great Basin. Most linguists support a fan-like migration from a southern homeland, somewhere near Death Valley about 2,000 years ago. Others view the Great Basin as the Numic homeland.

Traditionally, the Newe were hunter-gatherers. Generally, extended family groups wintered together in traditional campsites of 2 to 10 camps spaced one-eighth to one-quarter mile apart, located near permanent springs from fall until spring in dome-shaped houses of willow or tule (Steward 1938:232). In spring, family groups dispersed to harvest resources as they became available. Particularly rich and large resource areas such as the Owyhee River Basin, the Humboldt River, and the Ruby Mountains concentrated groups into large camps of up to 50 households for weeks at time. Fish spawns were particularly important in the spring along the Humboldt and its tributaries.

Groups converged for the fall pine nut harvest, critical for winter stores, and for the pine nut ceremony, the *Gwinii*, called for by one of the leaders who also directed the harvest. The *Gwinii* was a religious ceremony that entailed important political and social exchange; new leaders and marriage partners were chosen and people exchanged information about resources. Groups from pine nut areas, such as those at the base of the Roberts Mountains, wintered nearby, while others relayed baskets of nuts to caches en route to their own wintering grounds and home bases.

Religious Traditions and Connection to the Land

Traditional observances and round dances before and after the pine nut harvest, which became the fandango in more recent times, are particularly important social gatherings with a strong emphasis on community and cultural reinforcement with roots in the tradition of honoring nature and spiritual observance.

Contact

The first written accounts of contact with Euroamericans in the project area date from fur trapping expeditions in the late 1820s, and these and later explorations initiated profound environmental degradation already visible by 1845. In 1849 alone, it is estimated that over 50,000 people traveled to California along the overland route through Newe country (Crum 1994:18). Euroamerican ranchers and other settlers soon followed, appropriating the resources they did not destroy, and then a subsequent history of conflict and displacement lead to various federal programs to "mainstream" the Newe (Crum 1994:51).

By 1857, it was apparent that whites were settling and the need for resolving the "Indian problem" eventually lead agents to set aside "six miles square" in Ruby Valley in 1859. The Tosawihi leader, Sho-kup (Tsokkope), and Temoke moved their bands to the Ruby Valley reservation, hoping cattle raising and farming would replace rapidly disappearing native resources. Meanwhile, white immigration and

overland travel began encroaching into other parts of Newe territory with the establishment of the Central Route of the California Trail in 1859, also used by the Pony Express until 1861 and then by the Butterfield Overland mail company. The Newe in this region also organized retaliatory bands to fight whites. The largest (about 300 to 400 people) and best known of the retaliatory bands was led by Tu-tu-wa (Toi-Toi) of the Reese River Valley.

Treaties and the Reservation Era

In 1863, the Ruby Valley Treaty (ratified in 1866) was signed by roughly one-fourth of the Newe bands. Termed the "Western Shoshone" for the first time, 12 band leaders signed the Ruby Valley Treaty (Crum 1994:26). By 1877, Tosawihi leader Captain Sam had requested and obtained land in Duck Valley where a "Western Shoshone" reservation was created, acceptable to the Tosawihi as it was within a traditional resource area. By 1880, however, only about a quarter of the Newe had moved to the Duck Valley, since "groups remained deeply attached to their own particular regions" (Crum 1994:59).

Many Western Shoshone continued to live in traditional bands in ancestral areas located in the project area, including Diamond and Pine Valleys (Steward 1938). Some traditional activities generated modest income as they reinforced cultural identity, including bartering pine nuts and selling baskets. During the early part of this century, fandangos (i.e., multi-day cultural celebrations featuring traditional foods, round dances, songs, and hand games) provided a forum for socializing, political discussion, and elections, in ways the *Gwinii*, had once functioned. In later years, the fandango incorporated rodeo and baseball and became associated with mainstream holidays such as the Fourth of July and Labor Day.

The Indian Reorganization Act of 1934 (IRA) is the centerpiece of New Deal policies affecting Indians that reversed what has been called the cultural ethnocide of former federal policies (Clemmer and Stewart 1986:546; Crum 1994:85). The IRA gave tribes the means to consolidate allotments and buy lands, organize councils with elected officials, and pursue economic development. Land-based tribal entities could pursue legal action to reclaim lost lands. Cultural pluralism and the revitalization of native customs, including language and religion, was another emphasis. The IRA generated three new Western Shosone tribal organizations: the Te-Moak Bands of Western Shoshone Indians, the Yomba Shoshone Tribe of the Yomba Reservation, and the Duckwater Shoshone Tribe of the Duckwater Reservation. However, most of the Western Shoshone widely dispersed throughout and adjacent to the study area remain unaffiliated, primarily because participation in the Te-Moak organization was perceived as compromising the position of those pursuing recognition of the government's obligation to meet the terms of the treaty of Ruby Valley.

Following World War II, post-war conservatism led to a new federal policy directed toward "preparing all Indians for termination of federal trust responsibility; abolishing reservations; and providing assistance to nuclear families, rather than to communities, to become integrated into the dominant society" (Clemmer and Stewart 1986:549). One component of termination was the creation of the Indian Claims Commission (ICC) in 1946. In short, the purpose was to settle and extinguish claims prior to termination. Only four Western Shoshone tribal organizations considered participating in submitting a claim – Duck Valley, Elko, South Fork and Battle Mountain, and Battle Mountain later withdrew its representative.

Many Western Shoshone boycotted the claims proceedings, perceiving another attempt to sidestep the treaty of Ruby Valley, and like the IRA had before, the ICC polarized traditionalists wanting to sue for entitlement and "New Dealers' who wanted to fund reservation-based economic development (Crum 1994:124). For the Western Shoshone, the legacy of the treaty of Ruby Valley is the definitive point of departure for consultation, collaboration, cooperation or negotiation over land management issues, exemplified by the vicissitudes and political fall-out of the *United States v. Mary and Carrie Dann.*

Traditional Resource Areas

The following information about the valleys in the project area identify resource areas and residential bases used most consistently by three to four nominal groups. These valleys provide a basis for identifying properties in the project area associated with some of the people and historic camps important in Western Shoshone history.

Crescent Valley

The White Knife Shoshone, the *tosawihi*, had winter camps north of Battle Mountain and along the Humboldt in the vicinity of Beowawe. These people had access to Crescent Valley, known for its seed resources, and sometimes wintered near Cortez or in Grass Valley. They could, with permission, gather seeds in Pine Valley, or pine nuts in the Roberts Mountains and visited Diamond Valley area and winter camps in the eastern foothills of the Sulphur Springs Range.

Pine and Diamond Valleys

People from Pine Valley were known as the *pasiatekka* (redtop grass-eaters). Their residential bases included a fishing village along the Humboldt River at Palisade where 56 people were recorded under the leadership of a Chief *Pit-si-nain* in 1872; *Bauwiyoi*, a group of at least 6 encampments at the foot of the north slopes of the Roberts Mountains and an important pine nut destination; *Tupagadu*, west of an alkalai flat in Diamond Valley along the eastern slopes of the Sulphur Springs Range also known as a fishing location and where spring and fall festivals were held with *Wovigunt* as director; and *Todzagadu* named for a medicinal plant, on the western side of the Sulfur Spring Range where 15 families of perhaps 90 individuals were scattered at springs a few miles apart. Pine nuts occurred most abundantly on the western slopes of the Sulphur Springs Range and the Roberts Mountains, with some in the Cortez Mountains.

Newark Valley

Ruby Valley people from Medicine Spring foraged seeds somewhere in Newark Valley (Steward 1938).

Long Valley and Butte Valley

Long Valley was called *Yogumba*, "flat," and was reported to be nearly devoid of water, except at the extreme north. Villages in both valleys in the north were visited by Ruby Valley people for antelope drives because both had antelope shamans.

Steptoe Valley and Ely Vicinity

Steptoe Valley was called *Bahanai*, the location of several villages, at Ely, and on Duck Creek, 8 miles north. Pine nut camps were located in the Egan and Shell Creek Ranges.

FINDINGS

The following sections describe the NRHP-eligible cultural resources identified in the project area resulting from the Class III survey, including: 1) prehistoric and historic archaeological resources, 2) historic ranches, 3) cultural resources near access roads, 4) TCPs, and 5) ethnohistoric properties.

Prehistoric and Historic Archaeological Resources

In total, 501 prehistoric and historic archaeological resources (excluding isolated finds) have been identified within the 500-foot-wide study corridor along the route alternatives (SEI 2000a). A summary of all sites listed by route alternative is provided in Table 3.16-1. A site-by-site summary list is provided in the cultural resources inventory (SEI 2000a). Of the 501 recorded sites, 236 were new prehistoric archaeological sites, 148 were new historic archaeological sites, and 76 sites contained both prehistoric and historic components. One new, modern mining site and a site of indeterminate date were also recorded. In addition, 233 isolated finds were recorded and 26 previously recorded sites were relocated

and re-recorded (SEI 2000a). Fourteen of these previously recorded sites were in parts of the corridors that were not surveyed due to restricted access or extreme topography. In addition, 15 previously recorded sites could not be relocated; these sites are not included in the record of known cultural resources.

Of the 501 recorded cultural resources, 26% (n= 131) were recommended significant and eligible for listing in the NRHP, 70% (n= 350) were recommended not significant, and 4% (n= 20) were unevaluated. Of the 131 resources recommended significant, 61% (n= 80) are prehistoric sites and 7% (n= 10) are historic sites. Thirty one percent (n= 41) of the significant sites contain both historic and prehistoric components. All but two of the combination sites are significant for their prehistoric components rather than their historic components.

As shown in Table 3.16-1, the highest number of significant and unevaluated sites (87) were identified in the Crescent Valley (a) and (b) route alternatives study corridor, while the lowest number of sites (70 and 69, respectively) were identified in the Pine Valley (a) and (b) alternatives route study corridors. The Buck Mountain route alternative falls in the middle with 77 significant and unevaluated sites identified in this study corridor. The distribution of site types across the Crescent Valley and Pine Valley route alternatives are approximately 50% prehistoric, 34% historic, 15% multicomponent, and 1% modern resources (or of unknown date). The Buck Mountain route alternative exhibits a slightly higher percentage of prehistoric sites (58%) over historic sites (24%). The percentage of sites recommended as significant resources was approximately 30% for each alternative route.

Prehistoric sites outnumber historic sites; they consist primarily of lithic debitage, tool scatters, and debitage scatters. Tool and debitage scatters contain fragments of stone implements, while debitage scatters are comprised only of stone waste flakes, a byproduct of tool-making. These two site types comprise 39% of all recorded sites. Complex prehistoric sites containing groundstone, pottery, and surface features and patterning are more rare (9%). Only three prehistoric sites did not contain debitage: a pot drop, a group of fire-cracked rock features, and a tool scatter. Other site types included quarries (n=11) and a single hunting blind with an associated lithic scatter.

TABLE 3.16-1: SUMMARY OF CULTURAL RESOURCE SITES BY ROUTE ALTERNATIVE

Route Alternative	BLM Field Office			Land Status			Site Type				Total	
	Battle Mountain	Elko	Ely	BLM	Private	Both	Prehistoric	Historic	Both (P/H)	Modern	Sites	Significant and Unevaluated Sites
Crescent Valley (a)	162	12	135	275	24	10	154	108	46	1	309	87*
Crescent Valley (b)	167	12	135	280	24	10	157	111	45	1	314	87*
Pine Valley (a)	87	33	135	232	12	10	122	92	39	1	254	70*
Pine Valley (b)	92	33	135	237	12	10	125	95	38	1	259	69*
Buck Mountain	10	62	178	230	12	8	145	60	44	1	250	77

Source: SEI 2000a

**Sites A-111 and 63-3134 are located on multiple routes (Segments F, G, and H); site 63-3134 is located on Segments G and H. The total number of sites has been tallied so that Sites A-111/63-3314 and 63-3134 were counted only once. Totals also include unevaluated sites, since these are treated as significant until determined eligible or not eligible. Site numbers may change after agency determination.*

The historic sites are dominated by historic roads/trails, some with associated debris scatters (16% of all sites), but trash scatters representing a variety of activities, wood cutting, shepherding, and more enigmatic scatters are also common (9.5% of all sites). Less common site types include transmission lines of various types, ranching-related sites, mining-related sites (including charcoal platforms and a carbonari camp), an historic townsite, and an historic railroad grade (the Eureka-Palisade Railroad). Several linear sites including segments of the Pony Express National Historic Trail, and other named and unnamed historic roads (including the Lincoln Highway and Hercules Gap Road) were also identified and evaluated. The Pony Express National Historic Trail was designated as a National Historic Trail by Congress in 1992 and may be eligible for the NRHP under Criteria A, B, C, and in some cases D. Other historic roads include the Hill Beachy Toll Road, which opened in 1869 between Elko and Hamilton in Newark Valley, and the Eureka-Palisade Road.

Sites containing both prehistoric and historic components consist of a wide variety of types, including lithic scatters and complex prehistoric sites, simple historic debris scatters, complex historic sites, and a wide variety of other types. Together, they comprise 16% of all sites.

Recommendations of eligibility would be reviewed by the BLM in each of the three field offices where the project is located. The BLM would make eligibility determinations, which would then be reviewed by the Nevada SHPO. As such, the total number of sites may change after BLM determinations and SHPO review.

Historic Ranches

Nine ranches over 50 years old were identified as potentially of historic value within 2 miles of the various alternative route segments. Of the nine ranches, surveyors were allowed access to four of these privately owned properties. The four ranches that were accessed include:

- **JD Ranch:** The JD Ranch is located in Pine Valley near the intersection of Segments B and D. Once the home of the prominent Eureka County stockman Joe Dean, the ranching complex consists of approximately 17 historic and 6 non-historic structures. Aside from the main residence with 1870s Italianate fenestration, the historic structures date mostly from the 1920s to the 1930s.
- **Hay Ranch:** The Hay Ranch is located on the old Lincoln Highway near Segment G. The ranch is linked to the historic era of the Eureka Mining District, providing beef, vegetables, and ice to miners since the 1860s. The ranch contains seven historic structures and numerous other outbuildings and landscape features integral to a working operation.
- **Pinto Creek Ranch:** This ranch is located north of Highway 50 in White Pine County just south of Segment I. The ranch complex contains several sod roof buildings of rubble construction. A pole barn, a company house moved from Ely, and several wooden shacks were augmented by later owners. Concrete cinder block garages and stables reflect the additions of 1950s landlords.
- **Warm Springs Ranch:** Warm Springs Ranch is located near Buck Mountain and Segment E. Historically, the ranch is connected to the operation of the Hill Beachey Toll Road. The ranch is part of a large corporation ranch. The main residence is a 1920s-1930s era company house moved from Ely. A railroad tie barn possibly indicates an earlier owner's expansion of the ranch. A quonset hut equipment structure indicates more recent additions to the complex.

None of the four ranches inventoried were evaluated for their historic significance. Complete documentation for historic properties eligible for the NRHP at the local or state level entails submission of a report detailing the historic context and significance of the property by a qualified architectural historian, architectural and engineering plans, and photographs of the properties.

Cultural Resources Near Access Roads

Existing access roads (some of which would require improvements), a new centerline travel route, and new temporary spur roads would be used to construct and maintain the project. Most access roads for construction were analyzed for the existence of cultural resources during the literature search. All sites within 250 feet of an access road (or crossing the access road in the case of an historic road) were tallied, and a total of 310 sites were recorded in the project area. Of these, a total of approximately 136 cultural sites along all route segments are located near, or would be crossed by, access roads that may need improvements.

Table 3.16-2 identifies the number of cultural sites by route alternative that would be potentially affected by access road construction. Not all of these sites, however, are considered significant, nor have all of them been evaluated for significance. Table 6.17 in the Class III Cultural Resources Inventory (SEI 2000a) provides further information on recorded sites along potential access roads. Additional inventories would be conducted and site-specific analysis of this information, including impacts and mitigation measures for the preferred alternative route, will be provided in the HPTP and the COM Plan.

As shown in Table 3.16-2, the Crescent Valley (b) route alternative could affect the highest number of cultural sites due to road improvements (111). The Buck Mountain route alternative could affect the least (55), while the Pine Valley route alternatives (a) and (b) would fall in the middle (69 and 88, respectively).

TABLE 3.16-2: SUMMARY OF CULTURAL RESOURCE SITES NEAR ACCESS ROADS

Route Alternative	Number of Cultural Sites Potentially Affected by Access Road Improvements*
Crescent Valley (a)**	92
Crescent Valley (b)**	111
Pine Valley (a)	69
Pine Valley (b)	88
Buck Mountain	55

* *Not all of these sites are considered significant, nor have all of them been evaluated for significance.*
** *Includes L and K re-routes.*
Source: SEI 2000a

Traditional Cultural Properties and Ethnohistoric Sites

Nine ethnohistoric areas were identified for consideration as Traditional Cultural Properties (TCPs) during the ethnographic studies, interviews with tribal elders, and meetings with archaeological inventory participants and tribal representatives. They are all associated with one or more event, theme, or person important in Western Shoshone history. A sufficient amount of information was gathered to recommend three TCPs eligible for listing in the NRHP (SEI 2000b)[3]. All of these NRHP-eligible TCPs are located along the Crescent Valley route alternatives. One TCP was determined ineligible. Three TCPs in the study area remain unevaluated, but all unevaluated TCPs are considered eligible until a determination of significance has been made by the BLM in consultation with the Western Shoshone. Two areas that incorporate archaeological remains are associated with events important in Western

[3] The federal agencies involved have yet to make formal determinations of eligibility for these TCPs.

Shoshone history. Due to the confidential nature of these resources, none of these sensitive areas are described further in this document. The BLM retains the maps of these areas to protect the resources.

As shown in Table 3.16-3, the highest number of significant and unevaluated TCPs (5) would be located near the Crescent Valley route alternatives. The Pine Valley route alternatives would be located near 2 unevaluated TCPs. The Buck Mountain route alternative would be near 1 unevaluated TCP and 2 ethnohistoric areas.

TABLE 3.16-3: SUMMARY OF TCPS BY ROUTE ALTERNATIVE

Route Alternative	Number of Significant TCPs	Number of Unevaluated TCPs	Total
Crescent Valley (a)*	3	2	5
Crescent Valley (b)*	3	2	5
Pine Valley (a)	0	2	2
Pine Valley (b)	0	2	2
Buck Mountain	0	3	3

* *Includes L and K re-routes.*
Source: SEI 2000b

3.16.3 ENVIRONMENTAL CONSEQUENCES

This section summarizes the inventory findings of sites and features of cultural significance in the project area, including prehistoric and historic archaeological resources, and potential TCPs. This section also describes the potential direct and indirect impacts of the project on significant cultural resources. These potential impacts may relate to the entire corridor or to specific segments of the corridor, as discussed below.

SIGNIFICANCE CRITERIA

Project construction and operation activities would have a significant impact on cultural resources if they would:

- Directly or indirectly..."diminish the integrity of the property's location, design, setting, materials, workshop, feeling, or association." [36 CFR 800.9(b)]
- Otherwise directly or indirectly..."harm characteristics that qualify the property for inclusion in the National Register of Historic Places." [36 CFR 800.9(b)]

These criteria are in accordance with the directives of the State Protocol Agreement between the Nevada BLM and the Nevada SHPO for the assessment of adverse effects on historic properties, as defined in the regulations implementing Section 106 of the National Historic Preservation Act. The phrase "adverse effect" (as used in Section 106 consultation) and "significant impact" (as used in NEPA analysis) are not equivalent terms, but are similar in concept. In this document, an adverse effect that would occur to a resource deemed eligible for inclusion on the National Register of Historic Places (as determined by BLM in consultation with the SHPO) would be considered to be a significant impact under NEPA.

ENVIRONMENTAL IMPACTS – COMPARISON OF ALTERNATIVES

Project construction and operation would produce direct and indirect impacts to cultural resources. Impacts common to all route alternatives are discussed first, followed by an analysis of impacts that would be specific to each alternative.

Impacts Common to All Route Alternatives

Potential impacts to cultural resources that are common to all route alternatives include the following and are described in detail below.

- Direct impacts to prehistoric and historic sites.
- Discovery of unanticipated finds during construction.
- Discovery of human remains during construction.
- Visual impacts to cultural resources.
- Increased traffic and accessibility.
- Impacts to remaining unevaluated sites.
- Access roads impacts.

Direct Impacts to Prehistoric and Historic Sites

As shown in Table 3.16-1, prehistoric and historic sites eligible for listing in the NRHP are distributed throughout the project area. Direct impacts to prehistoric and historic sites, including surface or subsurface disturbance incurred during project construction, operation, or maintenance, could occur anywhere along the proposed route alternatives. Activities such as access road improvements; transmission line and substation construction, including foundations, tower pads, and guy wire anchor points; vegetation management; and material yards for construction equipment and personnel have the potential to disturb cultural resources eligible for listing in the NRHP. These impacts would most likely occur during the construction phase, although disturbance could potentially occur during operation and maintenance of the facility (e.g., emergency repairs).

The physical removal of brush and/or trees would primarily involve hydro-axing (using a type of mower machine), which does not typically result in subsurface impacts to prehistoric and historic archaeological resources. Surface impacts during this vegetative removal would most likely result from pnuematic tire pressure from vehicle traffic and could occur during the construction, operation, or maintenance phases.

Direct impacts would occur as a result of the construction of the transmission line; however, the individual sites cannot be precisely identified until the preferred route is selected, tower locations are determined, and detailed engineering plans are completed. In many cases, impacts can be minimized by strategic tower and facility placement and access restrictions. With these considerations, the following mitigation measures are recommended to reduce or eliminate direct construction-related impacts to NRHP-eligible cultural resources.

❑ ***Impact Cultural-1: Direct Impacts to NRHP-Eligible Sites***

Surface or subsurface disturbance incurred during construction, operation, or maintenance of the project could adversely impact NRHP-eligible sites.

❑ ***Mitigation Measure Cultural-1a***

Final design of the project (for example tower placement and access road locations) will include measures to avoid NRHP-eligible sites where feasible. The final list of sites to be avoided during construction will be specified in the Historic Properties Treatment Plan (HPTP) and the COM Plan, along with detailed measures to ensure this avoidance is implemented during construction

(such as flagging/fencing protocols and the establishment of site buffers). Sites that would be monitored, and procedures to implement this monitoring during construction, will also be provided in the HPTP and COM Plan. Temporary flagging or fencing would be implemented in consultation with the BLM on a case-by-case basis and in a manner that does not draw attention to a specific site location, and specified in the HPTP and COM Plan.

- ***Mitigation Measure Cultural-1b***

  An archaeological monitor will be retained during the construction phase of the project and will have the authority to halt construction activities in the immediate construction area if these activities disturb a site that has been identified for avoidance. An archaeological monitoring plan detailing this procedure will be provided in the HPTP and the COM Plan.

- ***Mitigation Measure Cultural-1c***

  If avoidance of NRHP-eligible sites is infeasible, treatment procedures such as archaeological data recovery, photo documentation, or other efforts (for example, creation of interpretive displays) would take place prior to the start of construction. These treatment measures would be determined on a site-by-site basis and established in the HPTP to be approved by the BLM and SHPO.

The objective of Mitigation Measures Cultural-1a and 1b is to ensure that cultural resources that are eligible for inclusion on the NRHP would not be adversely affected by the project. Specific sites identified for avoidance would be addressed in the HPTP and the COM Plan. Monitoring protocols to be set forth in the HPTP and the COM Plan would ensure compliance with the avoidance measures. Site monitoring would also occur in some instances to assess whether the mitigation measures were effective upon completion of construction.

Sites determined eligible to the NRHP, or that are unevaluated, would be treated as significant cultural resources (unless found not eligible to the NRHP by the BLM with concurrence by the SHPO). The preferred action is to avoid or reduce impacts to eligible sites, although some impacts may remain significant and unavoidable[4]. In the event 100% avoidance of such a site is not possible and it appears the project would have adverse effects, the BLM will implement site-specific steps necessary to reduce these impacts.

Typically, these steps would entail some form of treatment, ranging from surface collection, historic research, interpretive efforts, and/or archaeological excavation and analysis. This action is discussed in Mitigation Measure Cultural-1c. Such treatment efforts would be described in detail in the HPTP. For sites subject to data recovery, the most common approach to archaeological sites that are eligible to the NRHP as a result of their informational potential, the HPTP would outline the data potential of the property, present a research design and field and laboratory methods to be used in mitigation of the affected property, and make provision for the curation of artifacts recovered and for dissemination of the resulting report. Other treatment plans might involve detailed recording, archival research, or the development of public interpretation measures such as the placement of historic markers. Such treatment or data recovery plans would be developed and approved in consultation with representatives from the BLM and the SHPO.

The objective of mitigation through data recovery is to acquire substantive data relative to the research issues posited in the research design of the treatment plan. These data are intended to ameliorate the loss of information important to history or prehistory relative to the characteristics that rendered the site eligible for inclusion into the NRHP. Data recovery on most sites would consist of sample excavation.

[4] The BLM may determine that there is no way to eliminate an adverse effect to some sites eligible under Criteria A and B. In addition, data recovery does not completely eliminate impacts to sites eligible under Criterion D.

Only on very small sites would complete excavation be considered an appropriate treatment. Other forms of mitigation may also include the collection of oral histories, historical documentation, including architectural and engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation.

Discovery of Unanticipated Finds During Construction

Potential for the discovery of unanticipated cultural resources during construction exists along the entire construction corridor and could result in a direct impact.. Should such finds be discovered during construction, all potentially destructive activities will cease within the affected zone, and steps will be taken to protect the site from vandalism or further damage until such time as a BLM officer can be contacted to evaluate the nature of the discovery as outlined in the SPA. If possible, the resource would be avoided. Should avoidance prove infeasible, the resource would be evaluated and mitigation procedures would be determined by the BLM.

- ***Impact Cultural-2: Accidental Discovery of Cultural Resources***

  Project construction involving subsurface excavation could adversely affect the integrity of previously undiscovered cultural resources anywhere in the project area.

- ***Mitigation Measure Cultural-2a***

  Upon such discovery, all potentially destructive activities will cease within the affected area, and steps taken to protect the site from vandalism or further damage until a BLM officer can be contacted to evaluate the nature of the discovery. A buffer of 50 meters would be left around the discovery, and ground disturbing work would not resume until authorization was given by the officer. If possible, the resource should be avoided. The resource would be evaluated to determine whether or not avoidance is possible. If avoidance is possible, stabilization and measures to mitigate construction would also be required. If avoidance proves infeasible, appropriate mitigation procedures would be determined by the BLM and SHPO. The time factor for such procedures would be determined and specified in the COM Plan and HPTP.

Discovery of Human Remains During Construction

Another potential direct impact that could occur within any segment is disturbance to unanticipated and unmarked human remains that may be present in the construction area. Human remains found on federal lands are managed under the NAGPRA. Remains found on state and private lands are managed under Nevada law.

In the event that a human burial or suspected human burial is encountered during construction, work in its immediate area would be suspended. The BLM would be notified immediately, and a temporary 50-m diameter buffer around the discovery area would be flagged and protected from disturbance until a representative arrives at the site and issues further instructions, including establishment of an appropriate working buffer.

- ***Impact Cultural-3: Discovery of Human Remains***

  Project construction involving subsurface excavation could adversely affect the integrity of an unmarked human burial site. Such sites, while not anticipated, may be discovered anywhere in the study corridor.

- ***Mitigation Measure Cultural-3***

  Upon such discovery, all activities will cease within the affected zone, the BLM will be notified immediately, and a temporary 50-meter diameter buffer will be marked around the discovery area to protect it from disturbance. Work would not resume until permission was given by the officer. If the discovery is on federal lands, the BLM would manage such remains under the

direction of the NAGPRA. If the discovery is on state or private lands, the BLM would manage the remains under the directions of Nevada law concerning the protection of such findings.

Visual Impacts to Cultural Resources

Impacts to cultural resources along the entire project corridor may be caused by visual intrusions of the transmission line. The presence of any prominent feature, such as a large transmission line, introduced to the surroundings of an historic property may potentially create adverse impacts to such a property, if the characteristics which qualified the site for inclusion in the NRHP are affected (such as its historic setting or other characteristics). This is most likely to occur when the property qualifies for the National Register under Criteria A, B, or C, because these qualities cannot easily be mitigated through data recovery. Transmission lines, poles, substations, and permanent roads can undermine the historical impression that a cultural property can elicit to the viewer. In addition, project components can diminish the visually sensitive setting of important traditional cultural sites that may also be eligible for the NRHP.

In most cases, standard mitigation measures can be applied to reduce the project's visual impacts on these historic sites. For example, such mitigation measures may include: 1) tower spacing, 2) limited vegetation removal, 3) restriction of construction access in sensitive areas, 4) limiting ground disturbance at each tower location, 5) reclamation of access roads to pre-existing conditions, 6) use of non-specular conductors, 7) use of non-reflective neutral colors for the insulators, and 8) interpretive efforts if appropriate. In some cases, the impacts cannot be completely mitigated, constituting a significant, unavoidable visual impact. Some of the figures in Section 3.9 simulate the project's visual impacts to historic sites.

Several historic properties recorded in the inventory may be adversely affected by the presence of the transmission line. The following potential impacts are common to all route alternatives:

California Trail (Segment A)

The California National Historic Trail that brought many thousands of settlers, prospectors, and speculators to the Western United States runs along the Humboldt River and would be crossed just east of Dunphy by Segment A. This historic trail is eligible for the NRHP under Criteria A, B, and C, but at the point where the transmission line would cross the trail, no physical traces remain. This point is very near an elevated portion of Interstate 80, and the Western Pacific Railroad runs close to the assumed alignment of the original trail route. Since no trace of the original trail can be located at the point where the transmission line would cross the trail route and several transmission lines currently exist within the viewshed, no impact would be created by construction of the project. No other intact portions of the California Trail could be identified.

TCPs

Visual impacts to eligible and unevaluated TCPs are common to all route alternatives. Unevaluated TCPs are treated as if they were eligible until determined otherwise. The impacts and suggested mitigation measures related to the significant and unevaluated TCPs are described below:

- ***Impact Cultural-4: Visual Impacts to NRHP-eligible TCPs***

  The project may have significant adverse visual impacts on NRHP-eligible TCPs.

- ***Mitigation Measure Cultural-4a***

  If feasible, re-route portions of the transmission line to avoid potential visual impacts to eligible TCPs.

❑ ***Mitigation Measure Cultural-4b***

For the NRHP-eligible TCP where boundaries have not been defined, the BLM would consult with the Western Shoshone to determine the most appropriate mitigation measures to reduce visual impacts. As described in the State Protocol Agreement, consultation will be guided by BLM Manual 8160, *Native American Consultation and Coordination*, and BLM Handbook H-8160-1, *General Procedural Guidance for Native American Consultation.*

❑ ***Impact Cultural-5: Visual Impacts to Unevaluated TCPs***

The proposed project may have an adverse visual impact on unevaluated TCPs in the project area.

❑ ***Mitigation Measure Cultural-5***

The BLM will consult with the Western Shoshone to determine if there is sufficient information to locate the boundaries of the TCP, and to determine the most appropriate mitigation measures to reduce visual impacts. As described in the State Protocol Agreement, consultation will be guided by BLM Manual 8160, *Native American Consultation and Coordination*, and BLM Handbook H-8160-1, *General Procedural Guidance for Native American Consultation.*

Pony Express Trail

The Pony Express National Historic Trail is eligible for listing in the NRHP under Criteria A, B, and C. All route alternatives would traverse this historic trail at some point (i.e., Segments G, H, and E), creating a significant adverse visual impact to the trail's historic setting. The California-Oregon Trail Association gives this trail a Class 2 integrity rating for retention of its original location, association, and evoking the setting of 1860-1861. Similarly, the National Park Service identifies this portion of the trail as a "High Potential Segment," including "those portions of the trail which would afford a high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share in the experience of the original users of the historic route" (NPS 2000). Finally, the BLM has classified this stretch of the Pony Express National Historic Trail as a Class II visual resource. The proposed transmission line and towers would be clearly visible from the trail at two of the three crossings, thus creating an adverse visual impact on the trail.

❑ ***Impact Cultural-6: Visual Impacts to the Pony Express National Historic Trail***

The proposed project would pass directly over the Pony Express National Historic Trail, creating an adverse visual impact to this National Register-eligible historic resource. The crossings in two locations (Segments E and H) are visually open, and the visual impacts are unavoidable. The third crossing (Segment G) would occur in a more visually concealed area, where the significant visual impact could be mitigated to some degree.

❑ ***Mitigation Measure Cultural-6a – Visually Open Areas (Segments E and H)***

The proposed project would traverse the trail in open areas relatively devoid of vegetation in the area of Segments E (see KOP 15, Figure 3.9-16, in Section 3.9, Visual Resources) and Segment H. The visual impacts to the Pony Express National Historic Trail cannot be totally mitigated in these areas. The impacts to the trail will be minimized, however, through strategic placement of poles, reclamation of access roads, revegetation, and minimization of tree cutting and trimming. An interpretive kiosk would also be constructed and maintained at Jacob's Well, a Pony Express Station located in Huntington Valley approximately 3.2 miles from Segment E. The site would offer an opportunity for public awareness of this historic property in a more accessible area than the other crossings, and would lessen additional change to the historic landscape. An interpretive kiosk or historic marker along Segment H may also be appropriate.

❑ ***Mitigation Measure Cultural-6b – Visually Concealed Areas (Segment G)***

Impacts to the Pony Express National Historic Trail can be mitigated at the Segment G crossing due to the heavily wooded location. Existing tree cover should be maintained to the greatest extent possible to screen the transmission line from view along Segment G (see KOP 19, Figure 3.9-20, in Section 3.9, Visual Resources). In addition, towers could be placed with maximum and equal separation to the grade and nearby access road improvements could be returned to pre-existing conditions. During construction, travel between the two nearest towers could be restricted and/or the centerline travel route and spur roads located to minimize visual impact on the trail.

Eureka-Palisade Railroad

The Eureka-Palisade Railroad grade, which dates to 1875, is considered eligible for the National Register under Criterion A and possibly Criterion D. Segment C would be parallel the railroad grade for a distance of about 34 miles ranging between 0.6 and 2 miles (averaging approximately 1.5 miles) to the west of the proposed route. Judging from topographic maps and a series of photos taken from the grade toward the proposed transmission line route, it appears that the transmission line would be highly visible for approximately 30% of the 34-mile segment of the grade. The segment would be slightly visible for approximately 50% of the 34-mile stretch of the transmission line, and it is unlikely to be visible for 20% of the grade. Segment D would parallel the Eureka-Palisade Railroad for approximately 28 miles and would be visible for approximately 80% of the route, creating an adverse visual impact to this NRHP-eligible resource (see KOP 10, Figure 3.9-11 in the Visual Resources section). In total, Segments C and D would parallel the route for a total of 62 miles. Segment E would traverse the historic Eureka-Palisade Railroad grade (see KOP 12, Figure 3.9-13 in the Visual Resources section), as would Segment I. As a result, any of the route alternatives may create an adverse visual impact to the historic setting of this NRHP-eligible resource.

❑ ***Impact Cultural-7: Visual Impacts to the Historic Eureka-Palisade Railroad Grade***

The proposed project would be visible from the historic Eureka-Palisade Railroad grade, either by paralleling this resource for a number of miles, or by traversing it. Under either scenario, the proposed project would create an adverse visual impact to the historic setting of this NRHP-eligible resource.

❑ ***Mitigation Measure Cultural-7a – Parallel Segments (Segments C and D)***

The 62-mile stretch of the Eureka-Palisade Railroad grade will be thoroughly recorded using complete photographic recordation in the location of Segments C and D. Interpretive signs at two locations will be placed where the grade is visible from State Highway 278. Archival research and preparation of a final report will also be completed for a thorough recordation of the railroad. These measures will help reduce but not entirely mitigate the impact. Thus, this impact would be considered significant and unavoidable.

❑ ***Mitigation Measure Cultural-7b – Traversing Segments (Segments E and I)***

Design the crossing using normal height towers for maximum and equal separation to the grade, and reclaim all access roads to pre-existing conditions. In addition, consider appropriate landscaping techniques that may be used to reduce the visual impacts of the project.

Unevaluated Historic Ranches

The survey identified nine potentially historic ranches within 2 miles in the study corridor. The project may have an adverse visual impact to potentially historic ranches if these ranches are determined eligible for listing in the NRHP. Only four of these ranches were accessible during the survey inventory, and none of them have been evaluated for their historic significance by a professional architectural historian.

These include JD Ranch in Pine Valley (Segment B), Hay Ranch (Segment G), Pinto Creek Ranch (Segment I), and Warm Springs Ranch (Segment E).

After selection of the preferred alternative, an effort should be made to evaluate the significance of those ranches which may be affected, and provide mitigation measures to avoid or reduce visual impacts to eligible properties.

- ***Impact Cultural-8: Visual Impacts to Unevaluated Historic Ranches***

  If determined eligible, the project may create adverse visual impacts on unevaluated historic ranches along the proposed project. These include JD Ranch in Pine Valley (Segment B), Hay Ranch (Segment G), Pinto Creek Ranch (Segment I), and Warm Springs Ranch (Segment E).

- ***Mitigation Measure Cultural-8***

  After selection of the preferred route, an architectural historian will evaluate the ranches that were recorded along the preferred route during the inventory for their historic significance. If determined ineligible, no further mitigation measures are needed. If determined eligible, measures to reduce the visual impact of the project would be included in the HPTP and the COM Plan. Transmission tower locations will be selectively sited along the proposed centerline to reduce the visual impacts to eligible ranches, within design constraints. For example, transmission towers can be located in more obscure locations relative to the view aspect of the ranch or main ranch buildings. In addition, landscaping could be used to reduce some visual impacts. Finally, other measures to reduce visual impacts could be in the form of archival research and gathering of oral histories.

The Lincoln Highway

The Lincoln Highway (US 50), which spans the width of Nevada, is eligible for the NRHP as an entire corridor. Certain remaining segments of this highway contribute to its overall significance, while others are non-contributing segments. Segments common to all route alternatives, specifically Segments G, H, I, and J would cross non-contributing segments of the Lincoln Highway. As a result, the project would have no significant adverse visual impact on the NRHP-eligible Lincoln Highway. No mitigation measures are required.

Hercules Gap Road

Hercules Gap Road appears to follow the route of an aboriginal trail through a steep-sided canyon just north of Ely in Steptoe Valley (Amme 1990). The road qualifies for inclusion on the NRHP under Criteria A, B, and possibly D. Segment J, which is common to all route alternatives, would not run through the canyon itself but would cross the historic road at a distance of about 450 meters to the south. An existing transmission line already crosses this area, and the area of the proposed crossing is considered to be a non-contributing element of the eligible property. However, the new transmission line may be visible from other eligible portions of the resource that could affect the setting, feeling, and association of the site and an adverse visual impact would ensue.

- ***Impact Cultural-9: Visual Impacts to Hercules Gap Road***

  The project would cross the Hercules Gap Road along Segment J, creating an adverse visual impact to this NRHP-eligible resource.

- ***Mitigation Measure Cultural-9***

  An historic interpretive sign will be placed at Hercules Gap Road explaining the historic and prehistoric importance of the road and the traditional cultural importance of the nearby distinctive rock formation.

Increased Traffic and Accessibility

Indirect impacts to cultural resources along the entire project corridor may be caused by increased traffic and accessibility. Increased visitation to now relatively isolated regions of Central Nevada could increase the potential for unauthorized collection and vandalism at significant archaeological sites. Such visits could occur before, during, or after construction of the transmission line. The study corridor may be visited during construction planning, during construction itself, or after construction in association with maintenance or recreation activities (all made easier by the improvement of existing access and maintenance roads). Any unauthorized excavation or collection of artifacts at sites determined eligible for the NRHP would constitute a significant impact.

- ***Impact Cultural-10: Unauthorized Artifact Collection Due to Increased Traffic and Accessibility***

  Increased traffic and accessibility to the project corridor may increase the potential for unauthorized collection or vandalism at significant archaeological sites.

- ***Mitigation Measure Cultural-10a***

  An environmental compliance monitor will conduct pre-construction briefings to educate and train construction supervisors, managers, general foremen, and foremen about the regulations and penalties involving disturbance of archaeologically or culturally sensitive properties and about unauthorized collection of artifacts. This would also include signatory acknowledgement by all SPPC and contract personnel upon completion of the training. Due to the high turnover rate associated with construction crews, general foremen and foremen will be required to keep track of and train all construction personnel under their supervision of the regulations and penalties involving disturbance of archaeologically or culturally sensitive properties and unauthorized collection of artifacts. Training would involve multi-hour environmental education for personnel with the positions of foremen and above, and less than one-hour training sessions for the construction crew. The training would place the knowledge and responsibility with the leadership, and would require them to keep track of and train new project personnel under their supervision. If an employee or a contractor were caught collecting artifacts, SPPC would terminate that individual.

- ***Mitigation Measure Cultural-10b***

  During construction activities, exclusionary flagging or fencing will be used to protect sensitive areas. Also, the centerline travel route and new spur roads would be restricted or signage would be posted to discourage unauthorized vehicle access. After construction, new spur roads and portions of the centerline travel route leading to sensitive areas would be revegetated and reclaimed to preclude unauthorized overland vehicle access. Once these areas are closed, inspections of the lines by SPPC personnel would be conducted by the occasional use of ATVs or by helicopter.

The objective of these mitigation measures is to ensure that those cultural resources eligible for inclusion on the NRHP would not be subject to either deliberate or inadvertent disturbance, unauthorized collection by those associated with the construction and maintenance of the transmission line, or subsequent visitors to the area.

Impacts to Remaining Unevaluated Sites

In total, 20 sites identified during the survey process remain unevaluated either because their boundaries extended beyond the 500-foot study corridor, because they are located in areas previously surveyed, or because additional work will be needed to complete an evaluation of the site. The areas not surveyed are identified in Figure 3.16-1. These sites occur throughout the project area and include a number of

prehistoric and historic sites. Six unevaluated sites are in the Mt. Hope area alone, which was not included in the 1999 survey.

As mentioned previously, all unevaluated sites would be treated as if eligible for the NRHP unless found ineligible by the BLM with concurrence by the SHPO. However, depending on the route that is chosen, many of these sites could fall outside of the project area on BLM lands. It is BLM policy to evaluate all sites within its territory for NRHP eligibility. The unevaluated sites will be revisited and evaluated after selection of the preferred alternative and prior to submission of the HPTP to the BLM and SHPO.

❑ ***Impact Cultural-11: Remaining Unevaluated Sites***

A number of unevaluated cultural resource sites exist both within and outside of the selected route alignment. These unevaluated sites may be eligible for the NRHP. It is BLM policy to evaluate all sites within its territory for NRHP eligibility, when feasible.

❑ ***Mitigation Measure Cultural-11***

Sites left unevaluated after selection of the preferred route will be further examined by the BLM, by way of field visits and/or archaeological testing. The methods and schedule for evaluating these sites may be included in the COM Plan. Testing would typically consist of 1 meter by 1 meter excavation units excavated in 10 cm levels to sterile soil. Information collected in the course of this project would be evaluated, and any sites determined through agency review to be eligible for the NRHP would be treated in accordance with the prepared treatment plan.

Access Road Impacts

Other potential direct and indirect impacts to cultural resources common to all route alternatives would stem from the improvement of access roads, construction of the centerline travel route, and new temporary spur roads. Direct impacts to cultural resources could result from construction-related disturbance (i.e., compaction of soils, subsurface disturbance, etc.), while indirect impacts could include unauthorized collection during construction or from increased accessibility through time. After the preferred route has been selected, the HPTP and the COM Plan would address site-specific impacts to cultural resources resulting from use of or improvements to access roads. The types of mitigation measures that could be used to reduce or eliminate the impacts of access road construction are listed below.

❑ ***Impact Cultural-12: Access Road Impacts***

Direct and indirect impacts to cultural resources may occur from access road improvements, centerline travel route construction, and new temporary spur roads in the project area.

❑ ***Mitigation Measure Cultural-12***

After selection of the preferred route, the HPTP and the COM Plan would contain an inventory and evaluation of sites near the access roads that may require improvements, the centerline travel route, and new temporary spur roads, and provide mitigation measures for potential impacts to cultural resources resulting from access roads. These could include:

(a) Inventory all access roads within a 200-foot corridor (100 feet on each side of the access road centerline), excluding areas previously surveyed in the 500-foot wide study corridor. Inventory efforts would occur only for non-paved access roads that may require improvements.

(b) Evaluate sites located during the inventory for NRHP eligibility.

(c) Prepare a Treatment Plan for all significant sites that would be directly affected by access road construction.

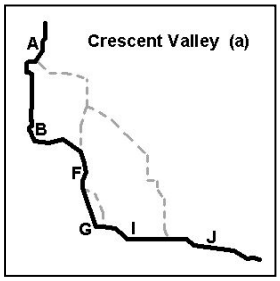
(d) Data recovery on 10% of sites that would receive indirect impacts as a result of increased vehicular access will be used to mitigate for impacts to sites located along access roads proposed for improvement. To maximize the research potential of the study, sites along the access roads would be selected in combination with the sites selected for treatment along the preferred route.

Sites eligible under Criteria A, B, or C may also receive treatment, such as preparation of interpretive displays, additional archival research, etc.

Alternative-Specific Impacts

In addition to the impacts that would be common to all route alternatives, the following presents impacts that would be associated with specific route alternatives. Because each of the route alternatives differ by one or more segments, these alternative-specific impacts are best discussed in terms of their differentiating segments.

Crescent Valley Route Alternative (a)



The Crescent Valley route alternative (a) is comprised of Segments A, B, F, G, I , and J. In addition to the impacts common to all route alternatives discussed above (i.e., Impact Cultural 1-12), specific impacts for the Crescent Valley route alternative (a) are listed below by their general location (segment). The greatest concentration of cultural sites were identified in the study corridor of this route alternative (87 significant or unevaluated cultural sites – see Table 3.16-1). This alternative would also be located near a number of NRHP-eligible TCPs. These issues are discussed below by segment.

Segment B

The Crescent Valley route alternative (a) would pass by four NRHP-eligible TCPs. As described under Impact Cultural-4, the project may create visual impacts to these NRHP-eligible TCPs. If feasible, re-routing would be recommended to avoid three significant TCPs (Mitigation Measure Cultural 4a). For the remaining TCP, the BLM will consult with the Western Shoshone to determine if there is sufficient information to locate the boundaries of the TCP, and to determine the most appropriate mitigation measures to reduce visual impacts (Mitigation Measure Cultural 4b). As noted above, these TCPs are confidential in nature, and the BLM contains the maps of these areas to protect the resource.

Segment B would also be within 2 miles of the JD Ranch, which is potentially eligible for the NRHP upon further review. Segment B may have an adverse visual impact on this property if determined eligible. Mitigation measures for unevaluated historic ranches are provided in Mitigation Measure Cultural-8.

The following mitigation measure would apply if Segment B were used to construct the transmission line (this is a site-specific mitigation measure that is related to the previous Impact Cultural-2):

Mitigation Measure Cultural-2b
Due to the relatively high probability that construction of Segment B may directly impact hidden, subsurface cultural resources in the Whirlwind Valley, all tower construction areas in the Whirlwind Valley would be tested for the presence of buried material through the use of test excavation units prior to the start of construction if either of the Crescent Valley routes were selected. These typically consist of 1 meter by 1 meter units excavated in 10 cm levels to sterile soil.

K re-route (along Segment B)
The K re-route has been proposed to avoid sensitive resources along Segment B. However, 5 cultural sites are within the 500-foot wide study corridor of the K re-route, and may be potentially affected by new access roads required to construct it. Three are historic, and two are a combination of both prehistoric and historic. Three of these sites are potentially eligible for the National Register. Mitigation Measure Cultural-1a, b, and c described above would apply to these potential direct impacts to NRHP-eligible sites.

L re-route (along Segment B)
The L re-route has been proposed to avoid sensitive resources along Segment B. However, six prehistoric sites are within the 500-foot wide study corridor of the L re-route. None of these sites are eligible for the National Register. As none of these sites are NRHP-eligible, no impacts to cultural resources are anticipated along the L re-route. No mitigation measures are required.

Segment F
Segment F would be constructed near an unevaluated TCP. Mitigation measures to protect unevaluated TCPs are described under Mitigation Measure Cultural-5.

Segment G
Segment G would cross the NRHP-eligible Pony Express National Historic Trail in a relatively wooded location (see KOP 19, Figure 3.9-20 in the Visual Resources section) where the significant visual impact could be mitigated through tower placement and/or other techniques, as described in Mitigation Measure Cultural-6b. Segment G would also cross the NRHP-eligible Lincoln Highway. Segment G would cross a non-contributing segment of this highway. As a result, Segment G would have no adverse visual impact to the NRHP-eligible Lincoln Highway. No mitigation measures are required.

Segment G would also pass within 2 miles of the Hay Ranch, a potentially significant historic ranch located on the old Lincoln Highway. Segment G may have an adverse visual impact on this property if determined eligible for listing in the NRHP. Complete documentation regarding this property's significance would be required for mitigation of eligible ranches affected by the project. Mitigation measures for unevaluated historic ranches are described in Mitigation Measure Cultural-8.

Segment G would also be constructed near an unevaluated TCP. As discussed previously, mitigation measures to protect unevaluated TCPs are described under Mitigation Measure Cultural-5.

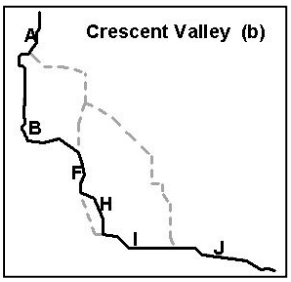
Segment I
Segment I, common to the Crescent Valley and Pine Valley route alternatives, would cross the historic Eureka-Palisade Railroad grade, considered eligible for the NRHP under Criterion A and possibly D. The location where the route would cross the grade is in a canyon adjacent to a segment of the Eureka-Palisade Railroad and an historic telephone line (see KOP 24, Figure 3.9-25 in the Visual Resources section). However, three previous transmission lines cross the canyon overhead, somewhat diminishing the setting of the railroad, the telegraph line, and the historic road[5]. One of these lines is visible in the background of KOP 24. An additional transmission line would add to the existing impacts to the setting, but the new line would span the canyon, somewhat limiting the visual impacts to the historic resource located at the bottom of the canyon. Nevertheless, Segment I may create an adverse visual impact to this NRHP-eligible resource. The proposed mitigation measures to reduce visual impacts to the Eureka-Palisade Railroad are described under Mitigation Measure Cultural-7b.

[5] These existing transmission lines include one SPPC 230 kV line and two Mt. Wheeler Transmission lines (one 60 kV and another 25 kV).

Segment I would also cross the NRHP-eligible Lincoln Highway. Segment I would cross a non-contributing segment of this highway. As a result, Segment I would have no adverse visual impact to the NRHP-eligible Lincoln Highway. No mitigation measures are required.

Segment I would pass within 2 miles of the Pinto Creek Ranch, located north of Highway 50 in White Pine County. Segment I may have an adverse visual impact on this property if determined eligible for listing in the NRHP. Complete documentation regarding this property's significance would be required for mitigation of eligible historic ranches affected by the project. Even if the Pinto Creek Ranch were determined eligible, the viewshed has been previously disturbed by construction of other transmission lines. In addition, the project would be less intrusive than the exiting transmission lines, since they would be constructed on the opposite (north) side of these lines. Mitigation measures for unevaluated historic ranches are described in Mitigation Measure Cultural-8.

Crescent Valley (b) Route Alternative



The Crescent Valley (b) route alternative is comprised of Segments A, B, F, H, I, and J. It follows a nearly identical alignment with the Crescent Valley (a) route, except that it uses Segment H rather than Segment G, traversing the east side of Whistler Mountain rather than the west. The Crescent Valley (b) route shares the impacts common to all route alternatives (i.e., Impact Cultural-1 through -12) and the impacts associated with Crescent Valley (a) route, except it would avoid impacts associated with Segment G (discussed above), and would create other impacts on Segment H (described below). The same number of cultural sites were identified in the study corridor of this route alternative as the Crescent Valley (a) route alternative (87 significant or unevaluated cultural sites – see Table 3.16-1).

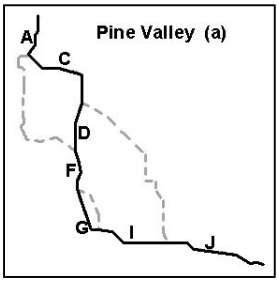
Segment H

Segment H would cross the NRHP-eligible Pony Express National Historic Trail in a relatively open area (see KOP 21, Figure 3.9-22, in the Visual Resources section). The proposed transmission line and towers would be visible from the trail, thus creating an adverse visual impact that cannot be completely mitigated. The impacts to the trail can be minimized, however, through strategic placement of poles, reclamation of access roads, revegetation, minimization of tree cutting and trimming, and interpretive efforts (see Mitigation Measure Cultural-6a).

Segment H would also cross the Lincoln Highway (State Highway 50). Segment H would cross one of the non-contributing segments to this highway. As a result, Segment H would have no adverse visual impact to the NRHP-eligible Lincoln Highway. No mitigation measures are required.

Segment H would also be constructed near an unevaluated TCP. As discussed previously, mitigation measures to protect unevaluated TCPs are described under Mitigation Measure Cultural-5.

Pine Valley (a) Route Alternative



The Pine Valley (a) route alternative is comprised of Segments A, C, D, F, G, I, and J. It follows a similar alignment to the Crescent Valley (a) route, except that it uses Segments C and D instead of Segment B. In addition to the impacts common to all route alternatives described previously (i.e., Impact Cultural-1 through -12), the Pine Valley (a) route would involve other impacts to cultural resources along Segments C and D, as described below. The second lowest concentration of cultural sites were identified in the study corridor of this route alternative (70 significant or unevaluated cultural sites – see Table 3.16-1).

Segment C

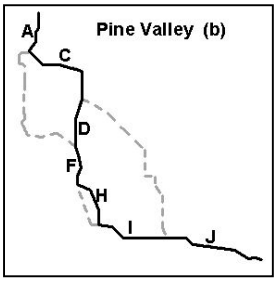
Segment C would parallel the NRHP-eligible Eureka-Palisade Railroad for approximately 34 miles, and would be visible for approximately 80% of the route, creating a significant adverse visual impact to this NRHP-eligible resource (see KOP 10, Figure 3.9-11 in the Visual Resources section). Mitigation measures suggested to reduce the visual impact to this historic site include the installation of interpretive signs at two locations where the grade is visible from State Highway 278, archival research, and preparation of a final report (see Mitigation Measure Cultural-7a). While these measures would help reduce the level of impact, they would not fully mitigate it. Thus, the visual impact to the Eureka-Palisade Railroad grade along segments C and D is considered a significant and unavoidable impact.

Segment C would also be constructed near an unevaluated TCP, which may have an adverse visual impact on this resource. Mitigation measures to protect unevaluated TCPs are described under Mitigation Measure Cultural-5.

Segment D

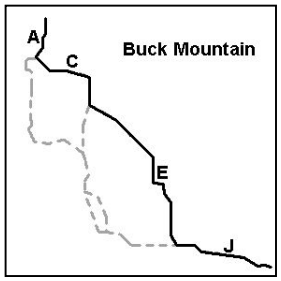
Segment D would also parallel the Eureka-Palisade Railroad for approximately 28 miles and would be visible for approximately 80% of the route, creating an adverse visual impact to this NRHP-eligible resource. Segments C and D would parallel the route for a total of 62 miles. Mitigation measures for Segment D are the same as for Segment C described above (see Mitigation Measure Cultural-7a). They would not completely mitigate the impact, however. Thus, the visual impact to the Eureka-Palisade Railroad grade along segments C and D is considered a significant and unavoidable impact.

Pine Valley (b) Route Alternative



The Pine Valley (b) route alternative is comprised of Segments A, C, D, F, H, I, and J. It follows a nearly identical alignment with the Pine Valley (a) route, except that Pine Valley (b) uses Segment H rather than Segment G, traversing the eastern side of Whistler Mountain rather than the west. The Pine Valley (b) route alternative would have largely the same impacts as Pine Valley (a) route, except the transmission line would cross the Pony Express Trail in a relatively open area, which would be highly visible and could not be easily mitigated. Impacts of the transmission line in the area of Segment H, and proposed mitigation measures to reduce the visual impact, are described above under the Crescent Valley (b) route alternative (Segment H – Mitigation Measure 6a). The lowest concentration of cultural sites were identified in the study corridor of this route alternative (69 significant or unevaluated cultural sites – see Table 3.16-1).

Buck Mountain Route Alternative



The Buck Mountain route alternative is comprised of Segments A, C, E, and J. It shares the impacts common to all route alternatives (Cultural Impact-1 through-12). Buck Mountain is the only route that uses Segment E, which would also cross the Pony Express Trail and the Eureka-Palisade Railroad grade. Approximately 132 cultural sites were identified along the study corridor of Segment E, 40 of which are significant or unevaluated. This segment has a higher number of significant and unevaluated sites than any other segment, largely due to its length, and the relatively remote and pristine area it would traverse. This segment would also traverse near an unevaluated TCP, and would cross the NRHP-eligible Hill Beachey Toll Road. These issues are described below.

Segment E

Segment E would cross over the historic Eureka-Palisade Railroad grade, considered eligible for the NRHP under Criterion A and possibly D (see KOP 12, Figure 3.9-13 in the Visual Resources section). As a result, Segment E may create an adverse visual impact to the historic setting of this NRHP-eligible resource. As described in Mitigation Measure Cultural 7b, the towers will use normal height towers for maximum and equal separation to the grade, and all access roads will be reclaimed to pre-existing conditions.

Segment E would also be constructed near an unevaluated TCP, which may have an adverse visual impact to this resource. Mitigation measures to protect unevaluated TCPs are described under Mitigation Measure Cultural-5.

Segment E would be located approximately 0.25 mile from the Warm Springs Ranch located near Buck Mountain. Segment E may have an adverse visual impact on this property if determined eligible for listing in the NRHP. Mitigation measures for all unevaluated historic ranches are discussed under Mitigation Measure Cultural-8

Segment E would also cross the Hill Beachey Toll Road, which is considered eligible under Criteria A and B. The segment may have an adverse visual impact on this historic toll road.

- ***Impact Cultural-13: Visual Impacts to the Hill Beachey Toll Road***

  If selected, Segment E would traverse the historic Hill Beachey Toll Road, creating a potentially adverse visual impact to this NRHP-eligible resource.

- ***Mitigation Measure Cultural-13***

  To mitigate visual impacts, an interpretive sign will be placed at the toll road crossing which describes the history and importance of the road to the regional transportation network.

Summary Comparison of Route Alternatives

Table 3.16-4 summarizes the impacts by route alternative.

TABLE 3.16-4: SUMMARY OF IMPACTS BY ROUTE ALTERNATIVE

Impact	Crescent Valley (a)	Crescent Valley (b)	Pine Valley (a)	Pine Valley (b)	BUCK MOUNTAIN
Impact Cultural-1: Direct Impacts to NRHP-Eligible Sites	X	X	X	X	X
Impact Cultural-2: Accidental Discovery of Cultural Resources	X	X	X	X	X
Impact Cultural-3: Discovery of Human Remains	X	X	X	X	X
Impact Cultural-4: Visual Impacts to NRHP-eligible TCPs (Segment B)	X	X			
Impact Cultural-5: Visual Impacts to Unevaluated TCPs (Segments C, F, G, H, and E)			X	X	X
Impact Cultural:-6: : Visual Impacts to the Pony Express National Historic Trail (Segments G, H, and E)	X	X	X	X	X
Impact Cultural-7: Visual Impacts to the Eureka-Palisade Railroad (Segments C, D, E, and I)	X	X	X	X	X
Impact Cultural-8: Visual Impacts to Unevaluated Historic Ranches (Segments B, E, G, and I)	X	X	X	X	X
Impact Cultural-9: Visual Impacts to Hercules Gate Road (Segment J)	X	X	X	X	X
Impact Cultural-10 : Unauthorized Artifact Collection Due to Increased Traffic and Accessibility	X	X	X	X	X
Impact Cultural-11: Remaining Unevaluated Sites	X	X	X	X	X
Impact Cultural-12: Access Road Impacts	X	X	X	X	X
Impact Cultural-13: Visual Impacts to the Hill Beachey Toll Road (Segment E)					X

RESIDUAL IMPACTS

After mitigation, there may be minor residual impacts to cultural resources, depending on the selected route alternative and the number of eligible sites in the path of that route. After selection of the preferred route and final design (i.e., tower placement, centerline route, etc.), the residual impacts to cultural resources will be more clear. For example, one residual impact may be the unavoidable visual impacts of the transmission line on the NRHP-eligible Pony Express Trail at the crossings of Segments H and E. If selected, the Pine Valley (b) route alternative would likely have a continuing visual intrusion upon this trail and a permanent reduction of its historic setting, as these impacts cannot be completely mitigated (see Impact Cultural-6). Similarly, the Buck Mountain route alternative would have a residual effect on this trail if it is selected.

As mentioned above, a detailed COM Plan will be completed after the selection of the preferred alternative, providing site-specific mitigation measures for those cultural resources potentially affected by

the construction, operation, and maintenance of the project. The COM Plan would also contain monitoring protocols to ensure compliance with the mitigation measures. While avoidance is the preferred mitigation measure, avoidance will not always be feasible due to engineering constraints, topography, or other conditions. An HPTP describing site-specific mitigation measures for impacts to historic properties will be completed and submitted to the BLM and the Nevada SHPO for their review and approval prior to construction. Depending on the resource type affected, interested Native American tribes may also be consulted regarding the COM Plan and the HPTP. However, the BLM would make the final approval of these treatment plans. Both the COM Plan and the HPTP will be used to apply the approved mitigation measures and to reduce residual impacts to the greatest extent possible.

NO ACTION ALTERNATIVE

Under the No Action Alternative, impacts to cultural resources associated with this project would be avoided. However, cultural resource impacts could occur in other areas as SPPC and the Nevada PUC would begin emergency planning efforts to pursue other transmission and/or generation projects to meet the projected energy shortfall.